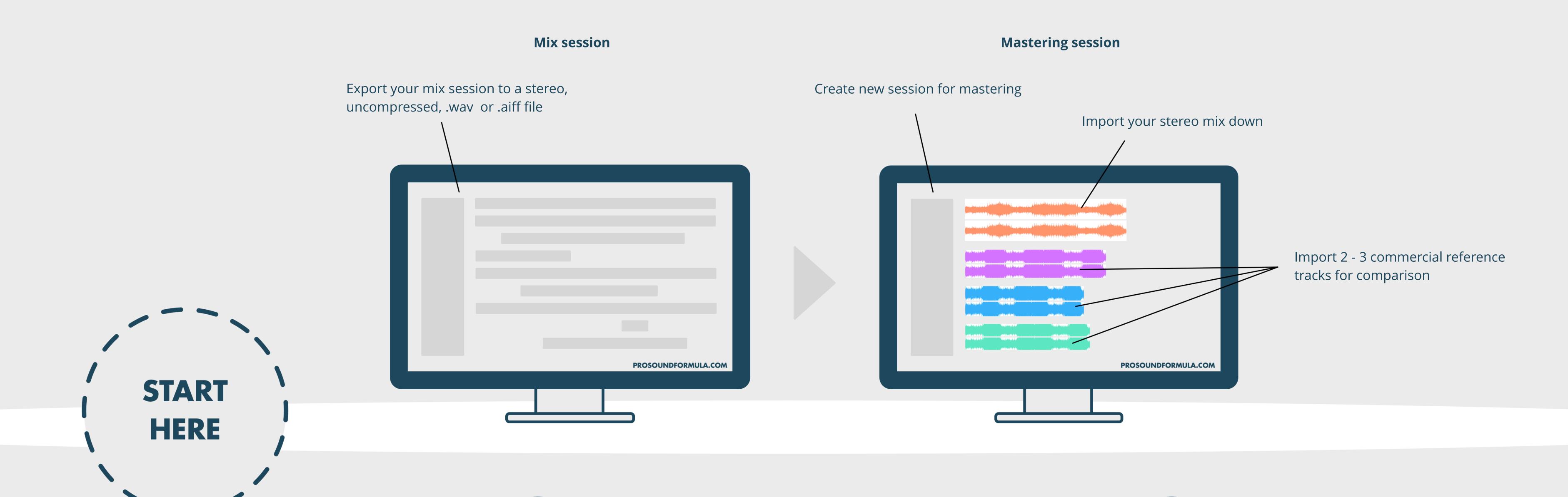
HOW TO MASTER A SONG

THE ORIGINAL 7 STEP MASTERING FORMULA



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are as similar as possible to the track Before we start mastering we you're mastering (in terms of both the need to make sure that everything's prepared and ready to go. We must check If possible, try and find high quality, that our mix is exported uncompressed commercial songs (as correctly and prepare the opposed to a poor quality 128kbs MP3). mastering session.

STEP 1: PREPARE IT

Goal: To get everything set up and ready for mastering. √ Bounce down (export) your mix session to a stereo,

uncompressed, file.

✓ Use minimum of 24 bit 44.1kHz. 24 bit 96kHz is ideal.

✓ Use .wav or .aiff

✓ Create a new session for mastering and import your final mix.

✓ Make sure the mastering session you create matches the sample rate and bit depth of your exported mix. e.g. 96kHz, 24 bit

✓ Import 2 – 3 commercial reference tracks into your mastering session so that you can compare your track directly to them.



If there are problems with the

mix, we need to make sure that

we FIX them FIRST so that they

don't get exaggerated by the

possible, it's ALWAYS better to

go back to the source and fix

damage you do to the overall

process you fix it, the less

track.

the problem – the earlier in the

mastering processes. If

Goal: To fix any problems with the overall sound.

STEP 2: FIX IT

✓ Compare your track to the commercial references and listen for any problems – anything that sounds strange or bad.

✓ Use a spectrum analyzer to look for problems with the frequency spectrum – this could be too much, or too little, energy in a certain range.

√ Common problems include; harshness, thin & brittle sound, vocal esses too loud, boomy bass, muddy low end, stereo image too narrow or wide, inconsistent frequencies,

Note: It's beyond the scope of this infographic to go into all the details about HOW to fix these problems. For more info, see the resources & links at the bottom of this chart.



TIP

mastering.

cymbals.



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Compression enables us to

reduce the peaks of a tracks

waveform which allows us to

volume without clipping, this

thus making the track sound

dynamic range can also give

the impression that the track

'louder'. The decreased

has more 'energy'.

increases the AVERAGE volume

then bring up the overall

STEP 4: COMPRESS IT

Goal: To reduce the dynamic range of the overall track in order to add energy and make it louder.

✓ Try a compressor to hear whether it improves the overall sound, if not, remove it and move on.

✓ Use a low ratio to avoid compressing too much – Start with a ratio around 1.5:1 – 2:1

✓ Aim for around 2dB's of gain reduction, no more than 4dB!

✓ Multi-band compressors allow you to compress the

different frequency ranges separately and thus give you more control – they can be very powerful but best avoided if you're unsure what you're doing yet!



Mastering is the last chance we

have to bring out the absolute

best in a track. In this phase,

we're focussing on anything

quality and feel of the song.

There is essentially only one

rule: 'If it sounds better, it is

better!'.

that can improve the OVERALL

STEP 3: ENHANCE IT

Goal: To improve the overall sound of the final mix in some way.

✓ Experiment with things like EQ, stereo wideners, harmonic exciters, and analog emulation plugins, to hear whether they improve the overall sound.

✓ Could the track use some thickening up? – Try some

tape or valve emulation plugin, or a bass enhancer.

✓ Would it sound better with a stereo widener? √ How about a little bit of EQ on the top end?

When it comes to enhancing the overall track,

TIP

you generally want to make VERY SUBTLE improvements. If the effect you've added is very obvious, there's a good chance it's too much.

Always fix any problems as early in the chain

as possible. Most of the time you'll get much

better results going back to the mix session

and fixing the problems over there before

e.g If you have a problem with cymbals that

are too harsh, instead of using an EQ on the

entire master, rather go back to the mix

session and adjust the EQ only on the

You never know what may work until you try it - so just experiment!

DISCLAIMER / WARNING:

TIP

TIP

The more you compress, the more

there can be no 'loud' without 'soft'.

need to use one again during the

mastering phase.

DYNAMIC RANGE you LOSE – Remember,

If you already used a compressor on your

over mix while mixing, there's typically no

Make sure to choose reference tracks that

sound and style of music).

This technique is generally ONLY to be used when trying to achieve the absolute MAXIMUM volume out of a track. Clipping is often used as a 'lesser evil' to overcompressing and limiting.

I do NOT recommend you use clipping unless you have an 'aggressive style' of music and you're going for the maximum level possible.



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Many pro mastering engineers use a technique known as 'soft clipping' to increase the level of a track with minimal side effects. Where as compression and limiting 'squash' the peaks down, soft clipping simply

'chops them off'.

STEP 5: CLIP IT

Goal: To soft-clip the audio peaks of a track in order to achieve maximum loudness with minimal negative side effects.

✓ If you're going for loud, soft clipping is your friend.

✓ If you're not rich (yet), consider trying a plugin such

A limiter prevents the peaks of a waveform from going above a √ Generally this is for more aggressive tracks, if it's a defined threshold, this enables mellow song or something more natural, stay away! us to bring up the overall level of the track which makes it as the T-Racks Soft Clipper to get a similar effect to sound louder. A limiter is what the pro's use. always the LAST process in the



mastering chain and nothing

should be placed after it.

STEP 6: LIMIT IT

Goal: To increase the overall level of the track as much as possible without clipping or losing quality.

✓ If you do nothing else, a "brick-wall limiter" is a great way to bring your track up to a good level without digital clipping.

✓ A limiter is always the LAST step in the chain, don't put anything after the limiter.

✓ Limit to -0.1 (Some people say -0.3 is better, personally I don't think it makes any difference but that's up to

you to decide).

The more you limit a track, the more attack and punch you tend to lose.

To find the 'sweet spot', push the limiter hard until you clearly hear these side effects. Once you're aware of them, back off the limiter until the attack and clarity returns.

In general, aim for about 2dB - 4dB of gain reduction.



When listening back to your track on

e.g. If it sounds too bassy only on the headphones, it's probably not an issue. However, if it sounds too bassy in the car, on the HIFI, and on headphones, then it's probably too bassy!

various systems, you want to listen out

for CONSISTENT issues.

TIP



The essence of mastering is making sure that our tracks translate to the real world. Most people are NOT listening back on expensive reference monitors, so we must make sure that our tracks sound great on the 'average' playback system.

STEP 7: REFERENCE IT

Goal: To listen and compare your master on a variety of different playback systems to get a better idea of what's working or not, and then make adjustments if necessary.

✓ Listen on as many different systems as possible – in the car, on a boombox, bluetooth speaker, large HIFI, headphones, PA system, etc.

✓ Compare to your reference tracks and listen out for consistent differences.

✓ Make adjustments and repeat the process as many times as necessary.

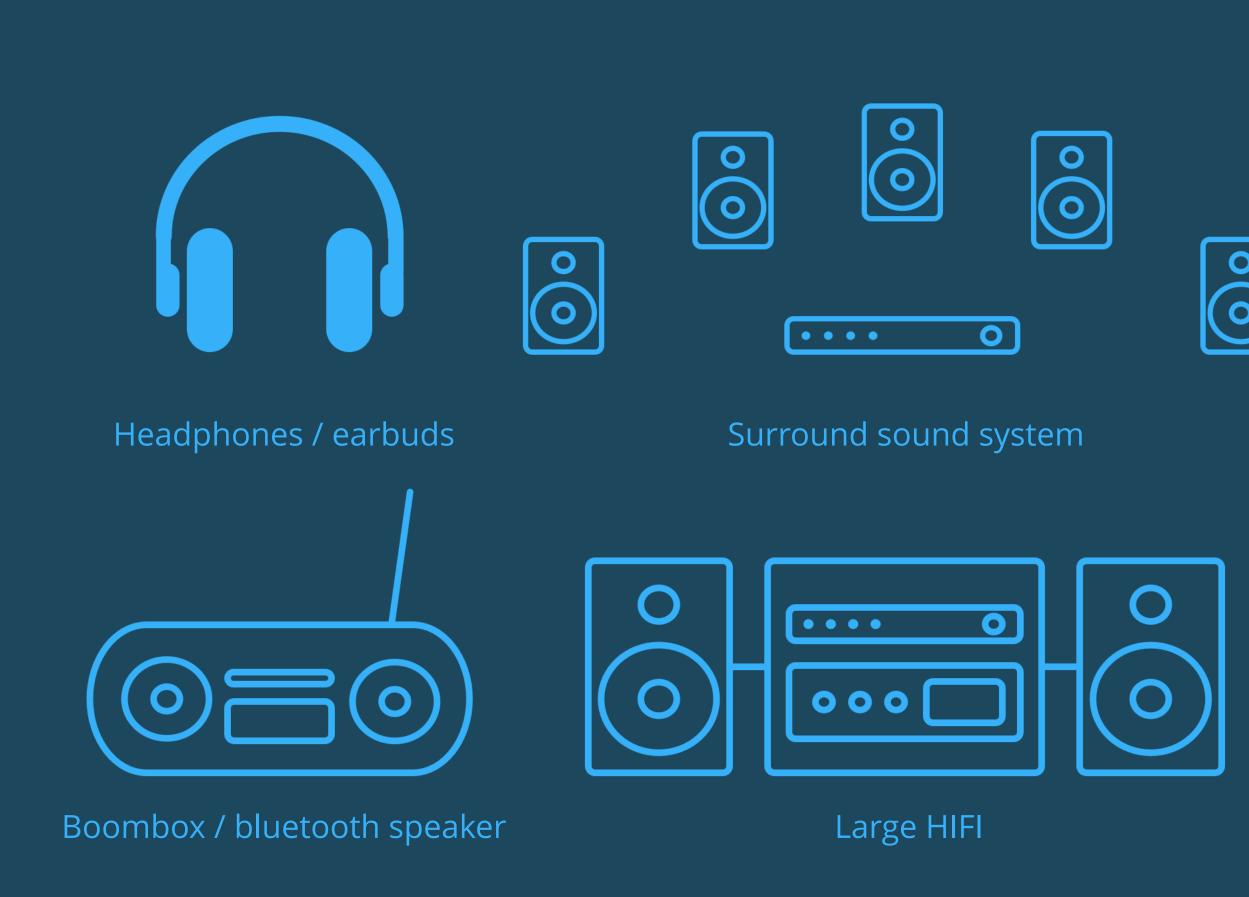


Export your final master to an uncompressed .wav or .aiff file at 44.1kHz 16 bit – use this 'master file' to convert to

If you import your new master back into a session, you'll notice that it now looks visually bigger and fatter – like other commercial songs.



Reference your master on as many playback systems as possible... Car stereo



RESOURCES & LINKS

Watch the video that explains this process step by step: http://prosoundformula.com/how-to-master-a-song/

Sign up free for my Mastering Mini-Course: http://prosoundformula.com/sign-up-mastering/

Are your tracks still not sounding as good as you'd like? Watch these two videos to learn the top 5 musical, and the top

5 technical, mistakes that may be holding back your tracks:

http://prosoundformula.com/the-top-5-musical-mistakes/ http://prosoundformula.com/the-top-5-technical-mistakes/

someone could walk you through the whole mastering process step by step and show you exactly what to do, check out my indepth Ultimate Mastering Formula program over here:

If all this stuff sounds pretty confusing and you just wish that

http://prosoundformula.com/products/the-ultimate-mastering-<u>formula/</u>

